

PRIOR ART

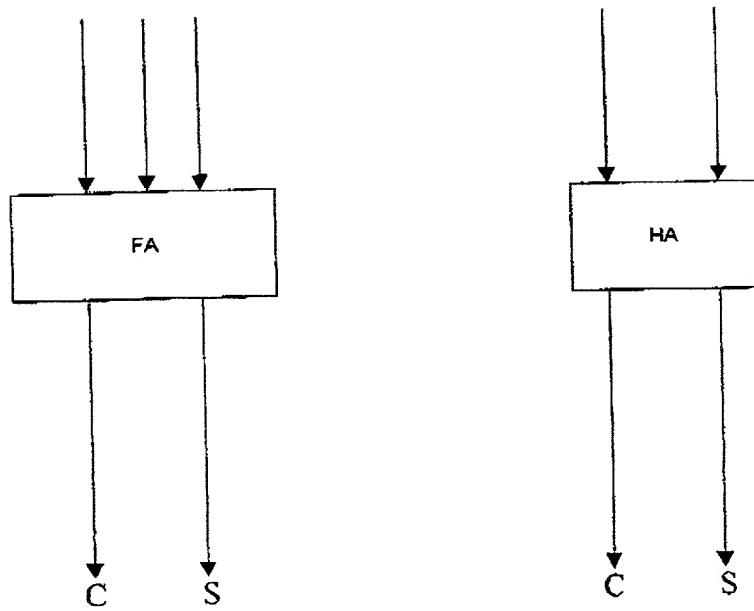


Fig 1

## PRIOR ART

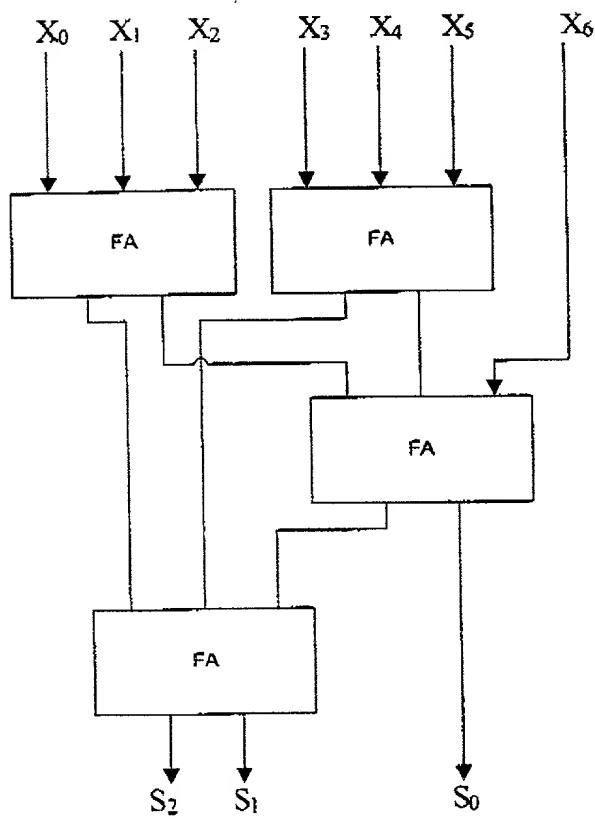


Fig 2

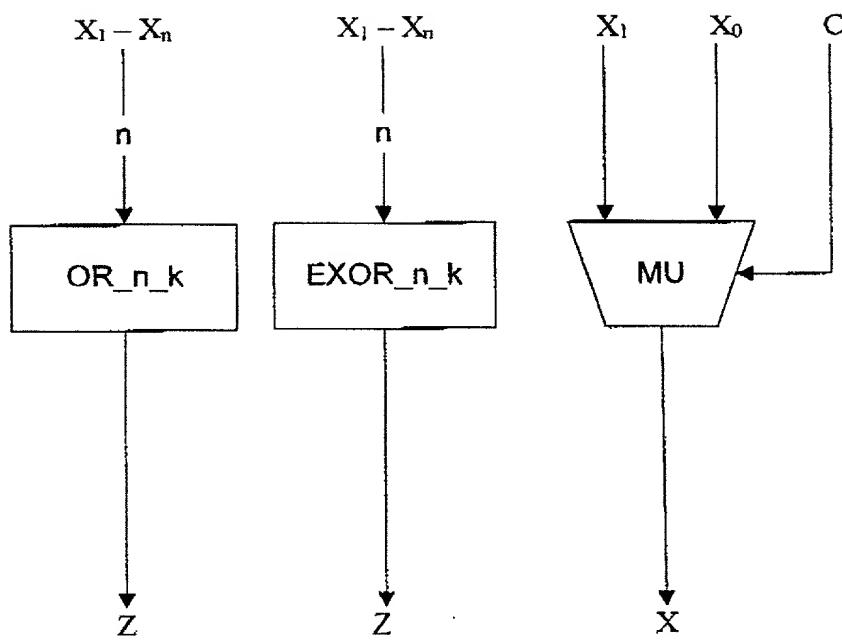


Fig 3

OR\_3\_1

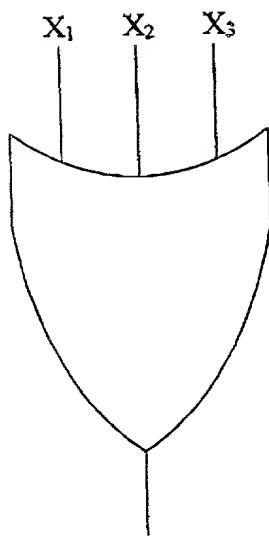


Fig 4

OR\_4\_1

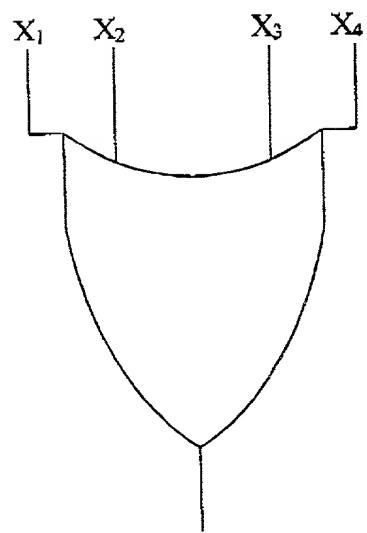


Fig 5

## OR\_5\_1

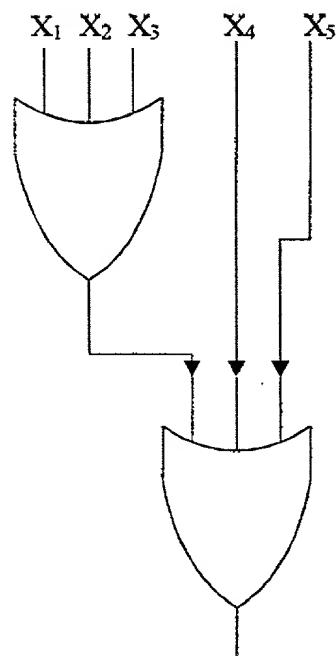


Fig 6

## EXOR\_7\_1

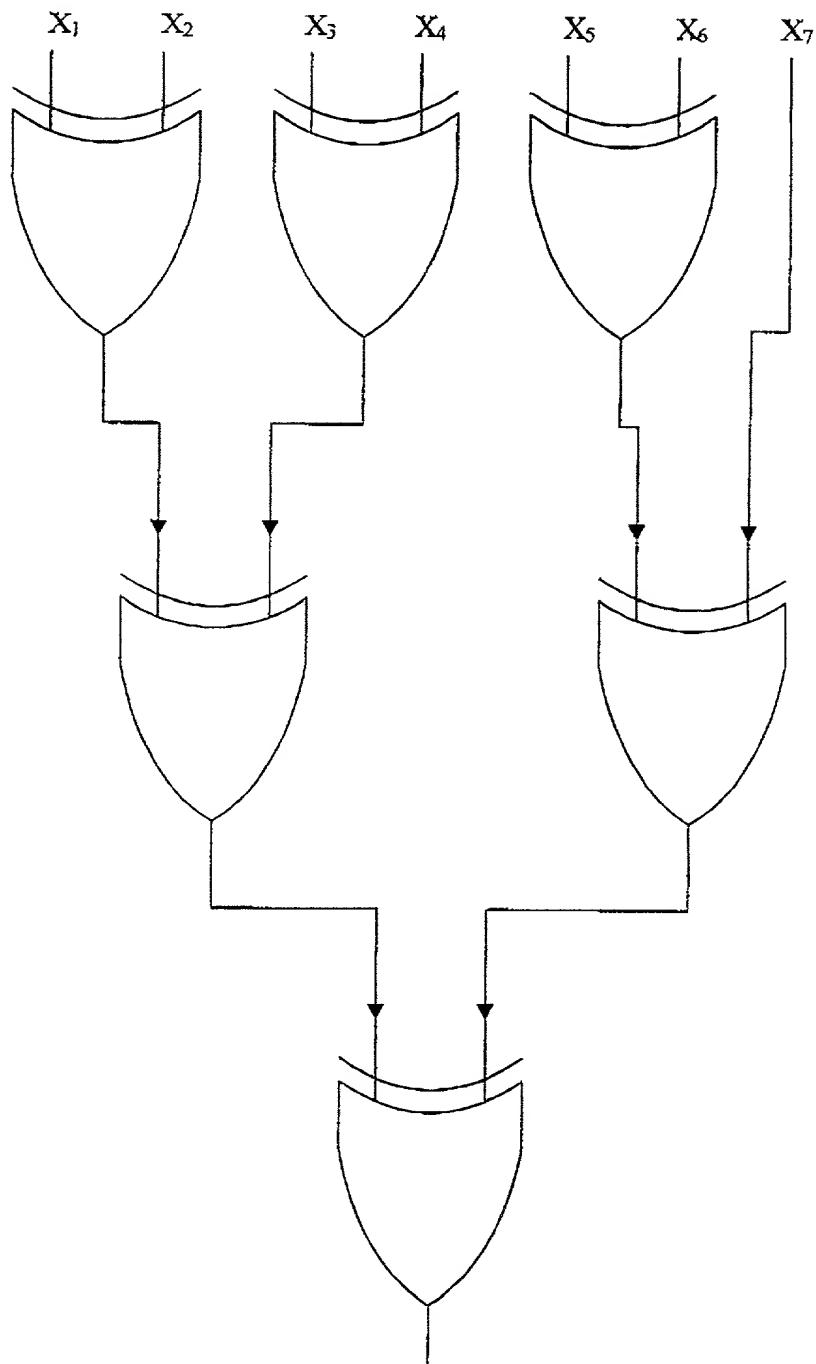


Fig 7

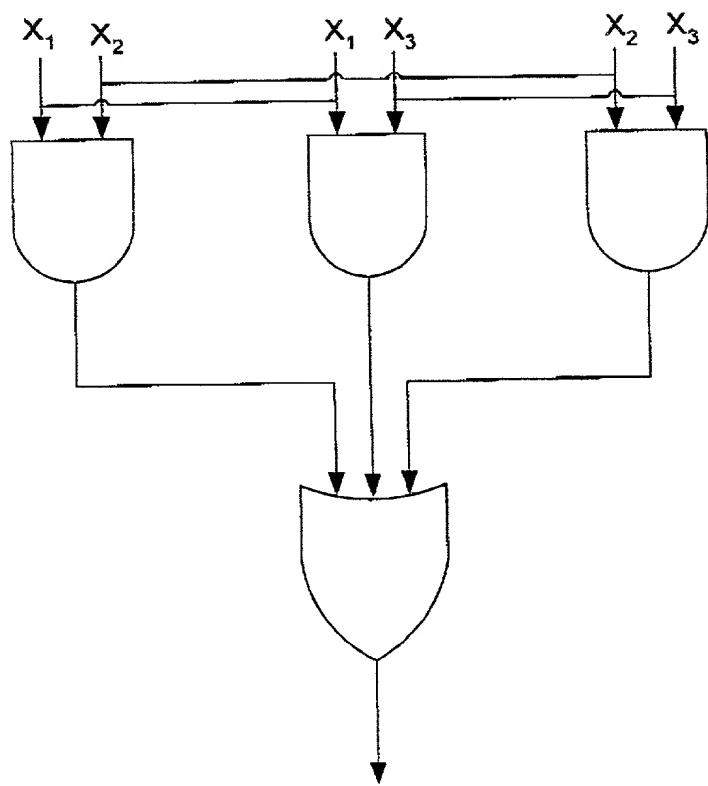


Fig 8

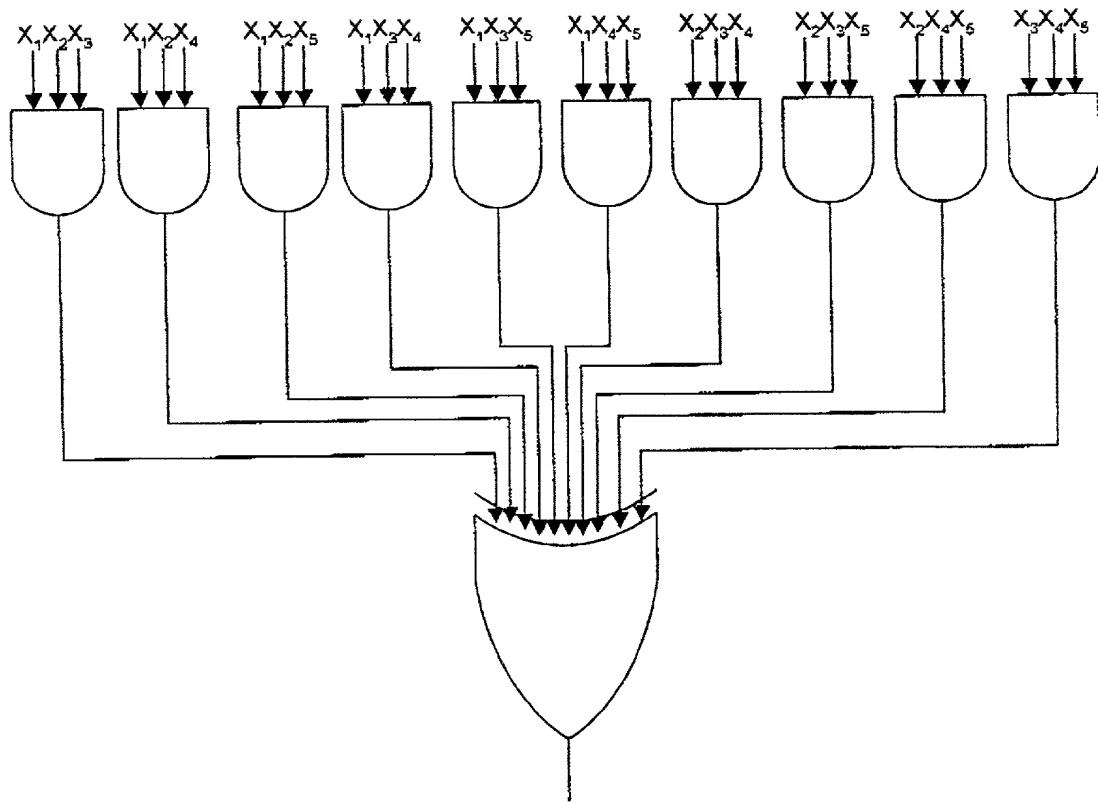


Fig 9

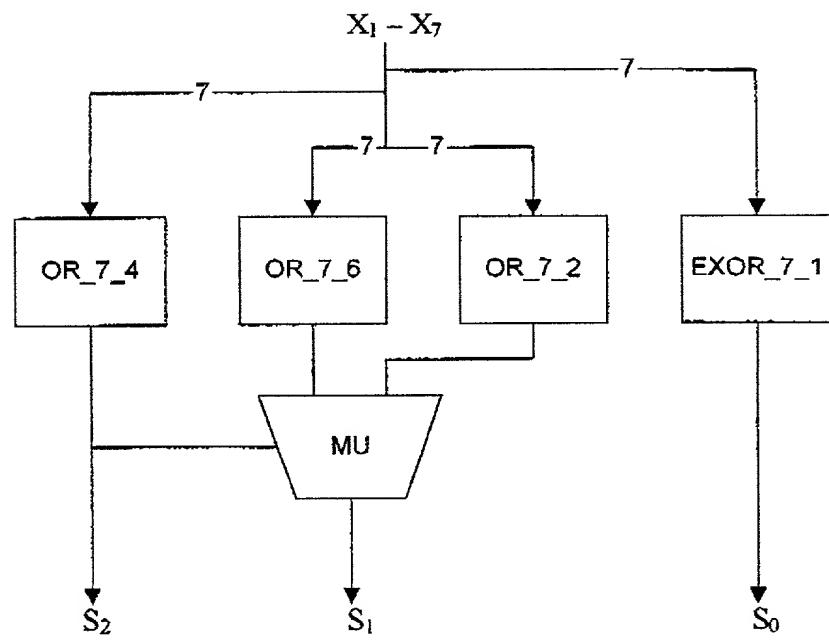


Fig 10

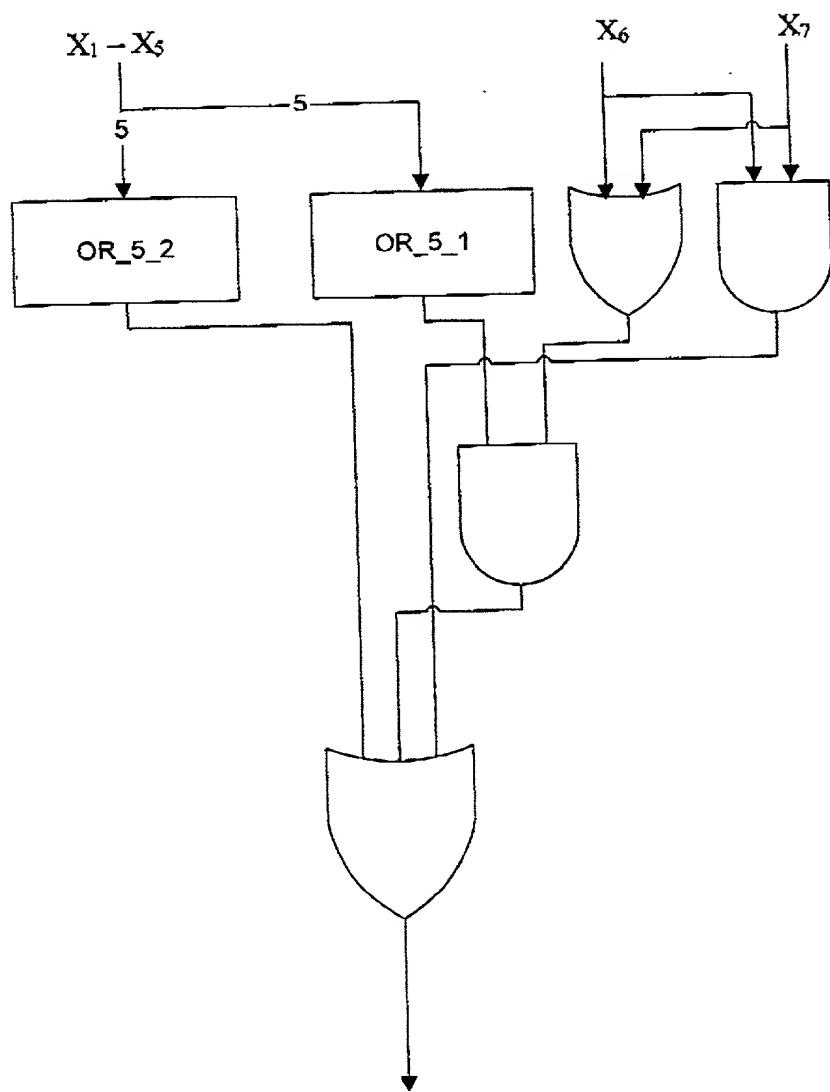


Fig 11

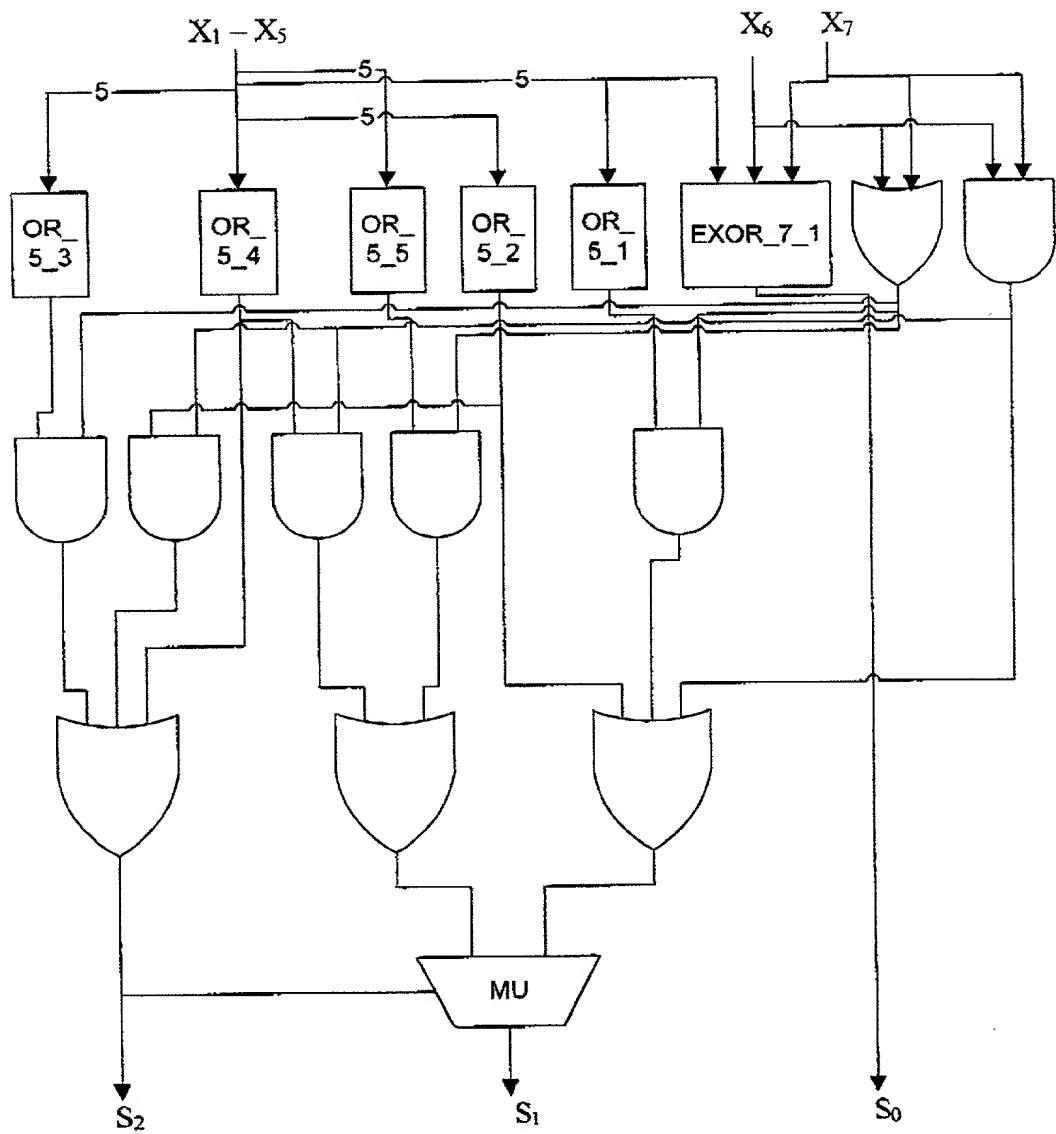


Fig 12

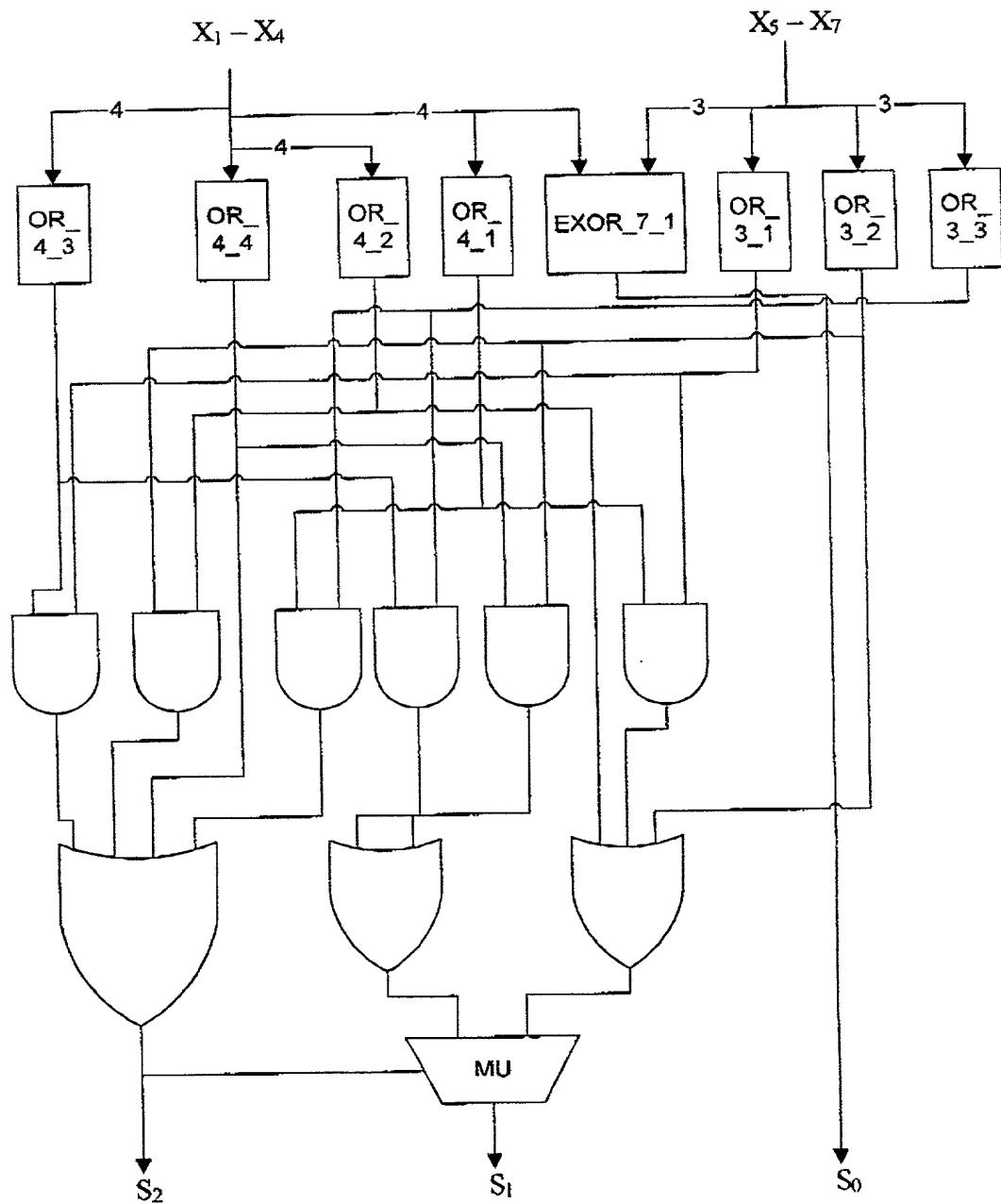


Fig 13

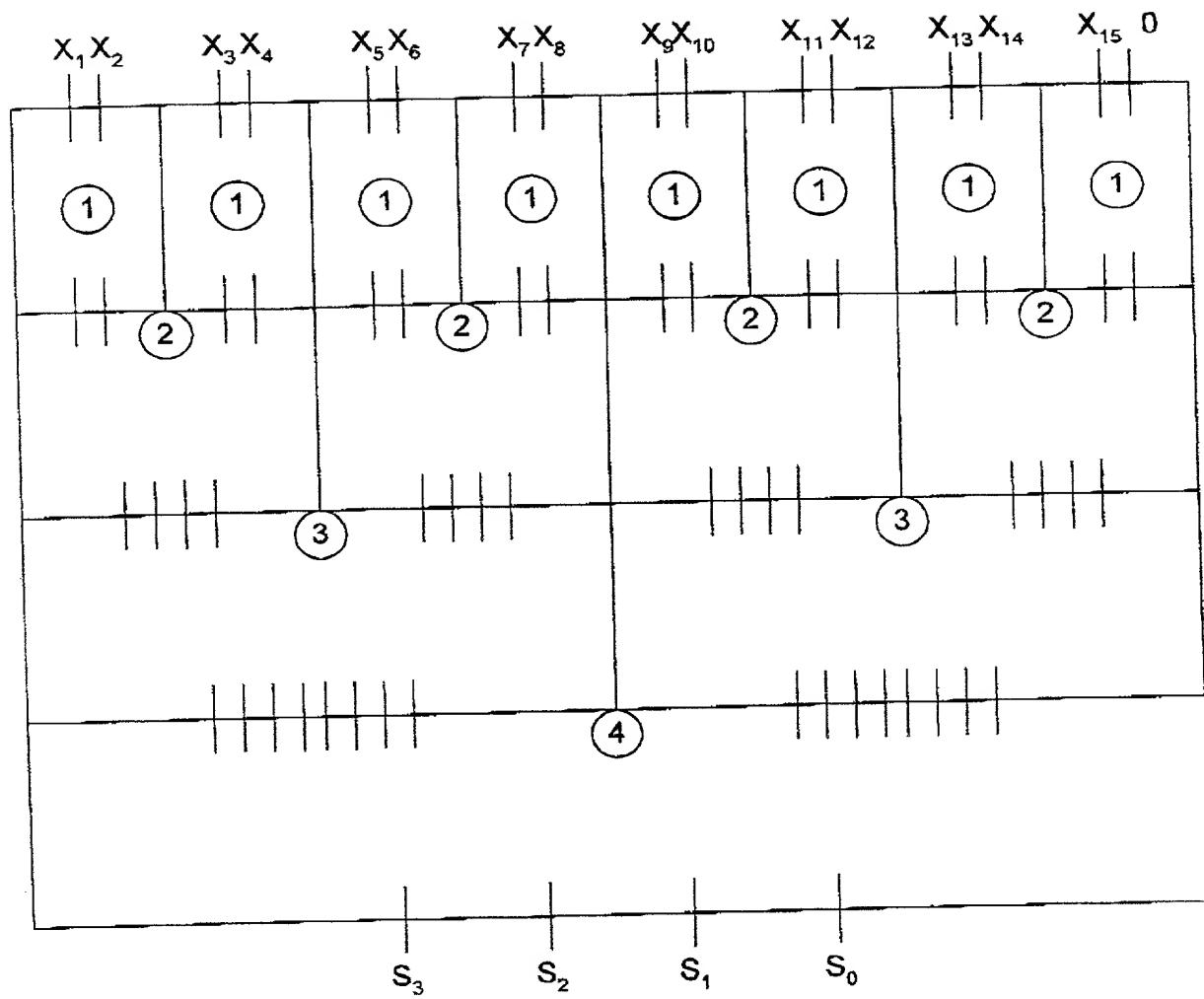


Fig 14

## BLOCK 1

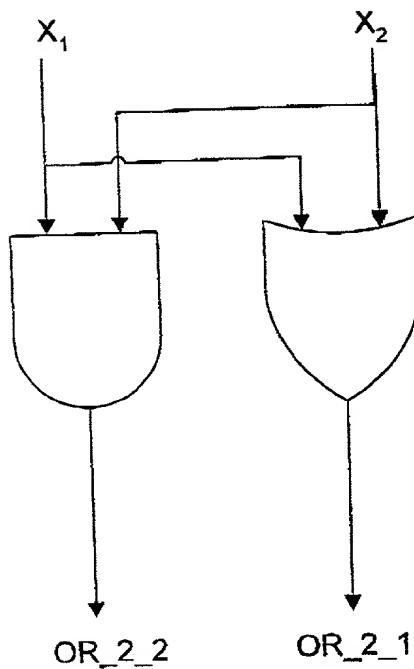


Fig 15

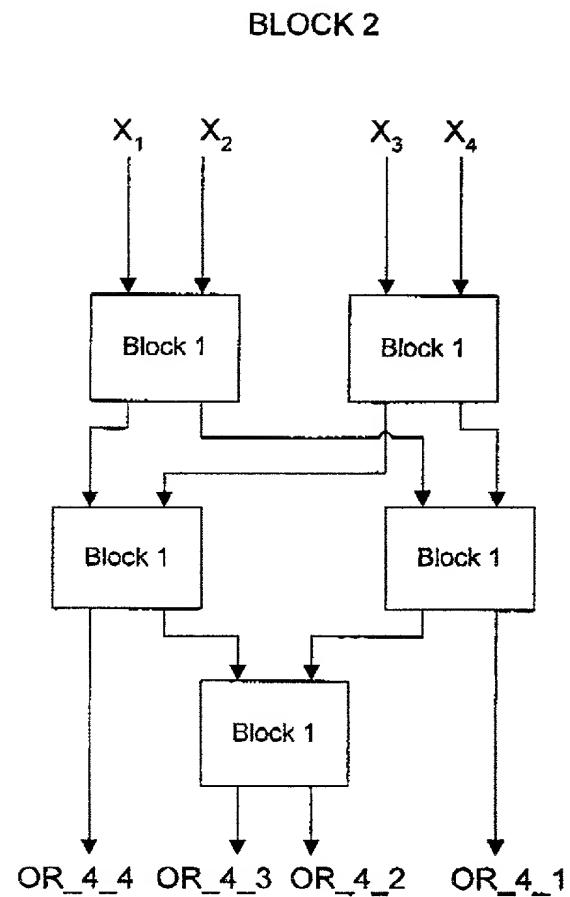


Fig 16

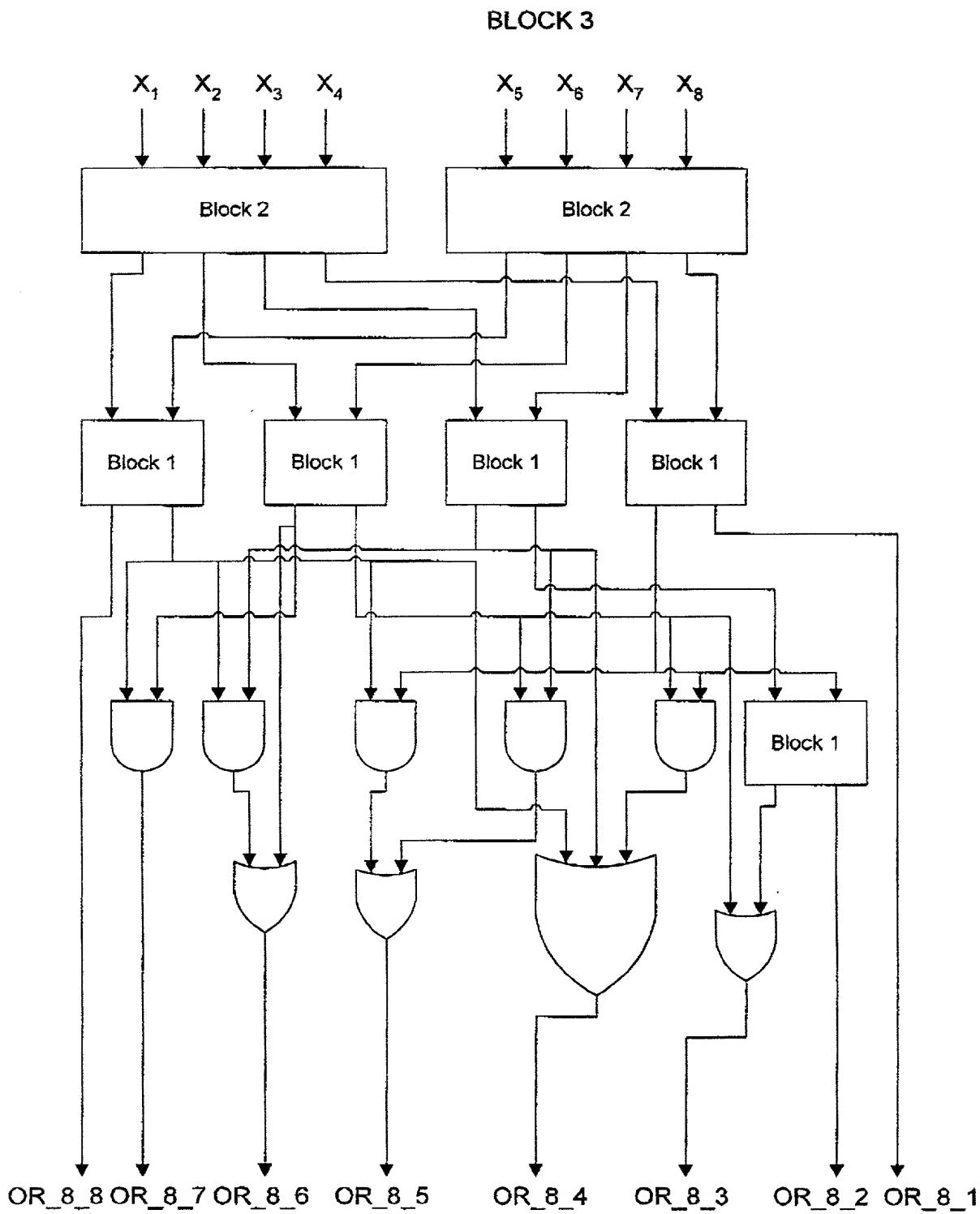


Fig 17

## BLOCK 4

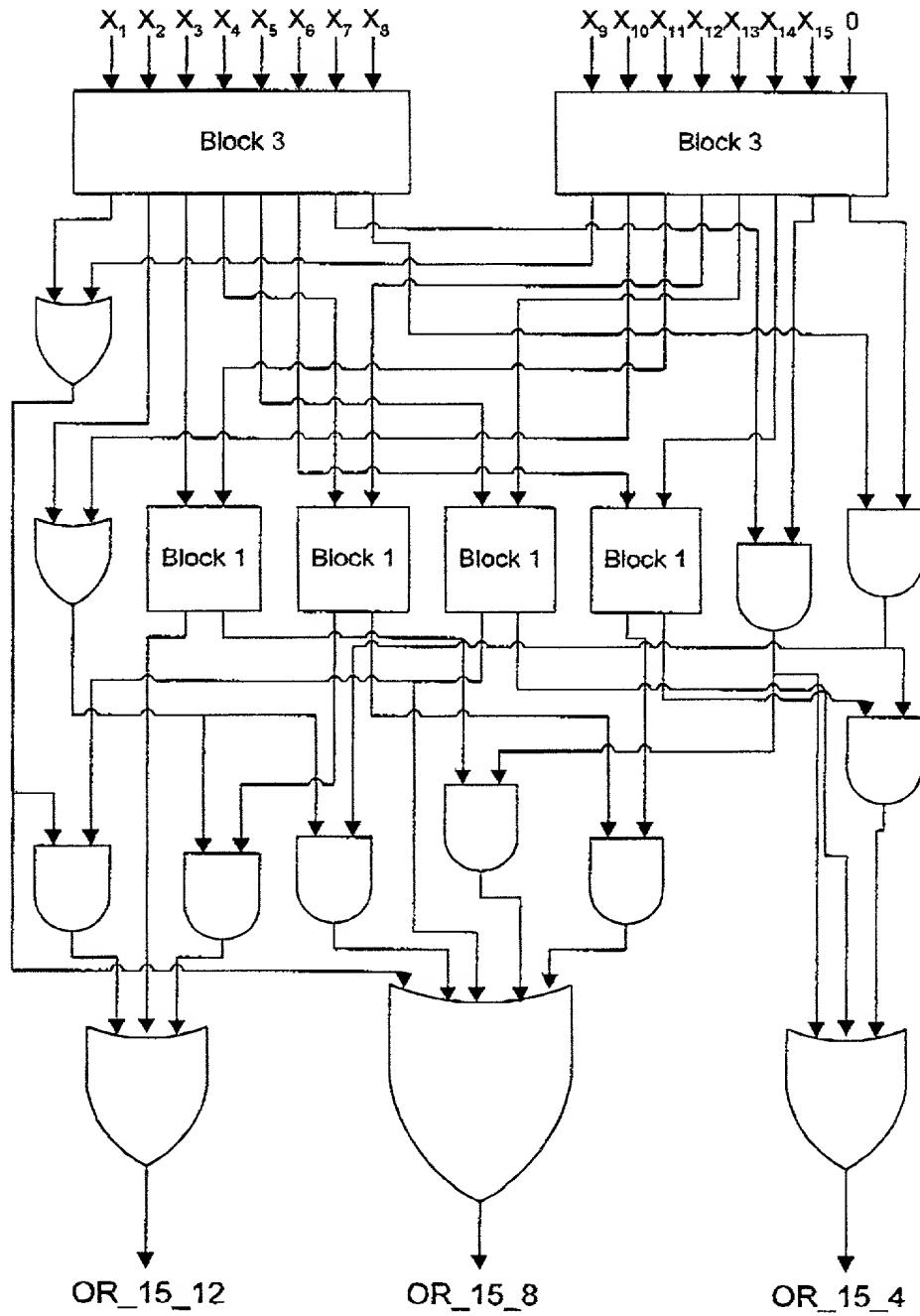


Fig 18

## BLOCK 5

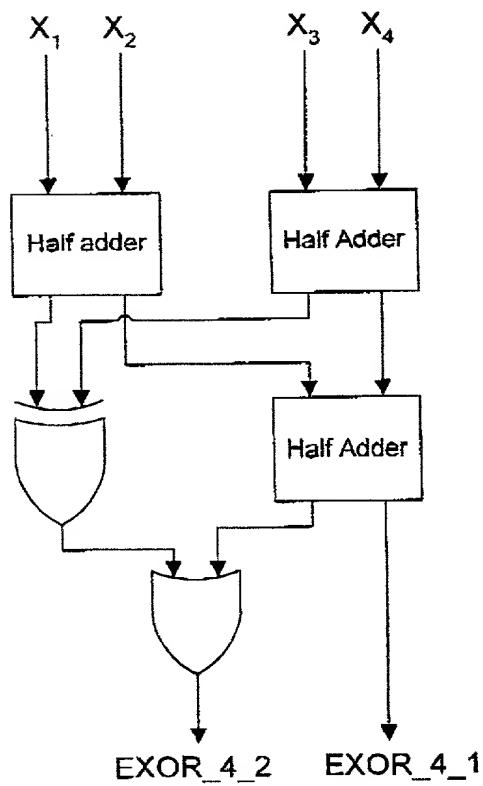


Fig 19

## BLOCK 6

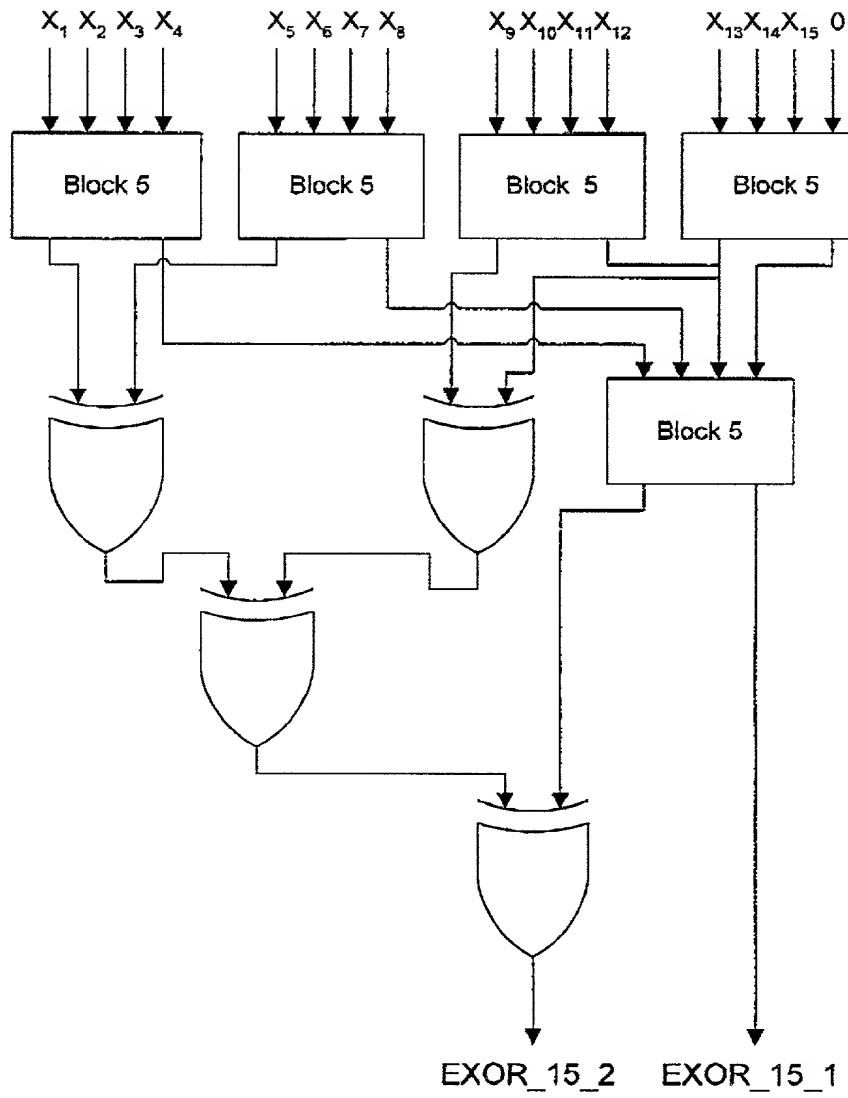


Fig 20

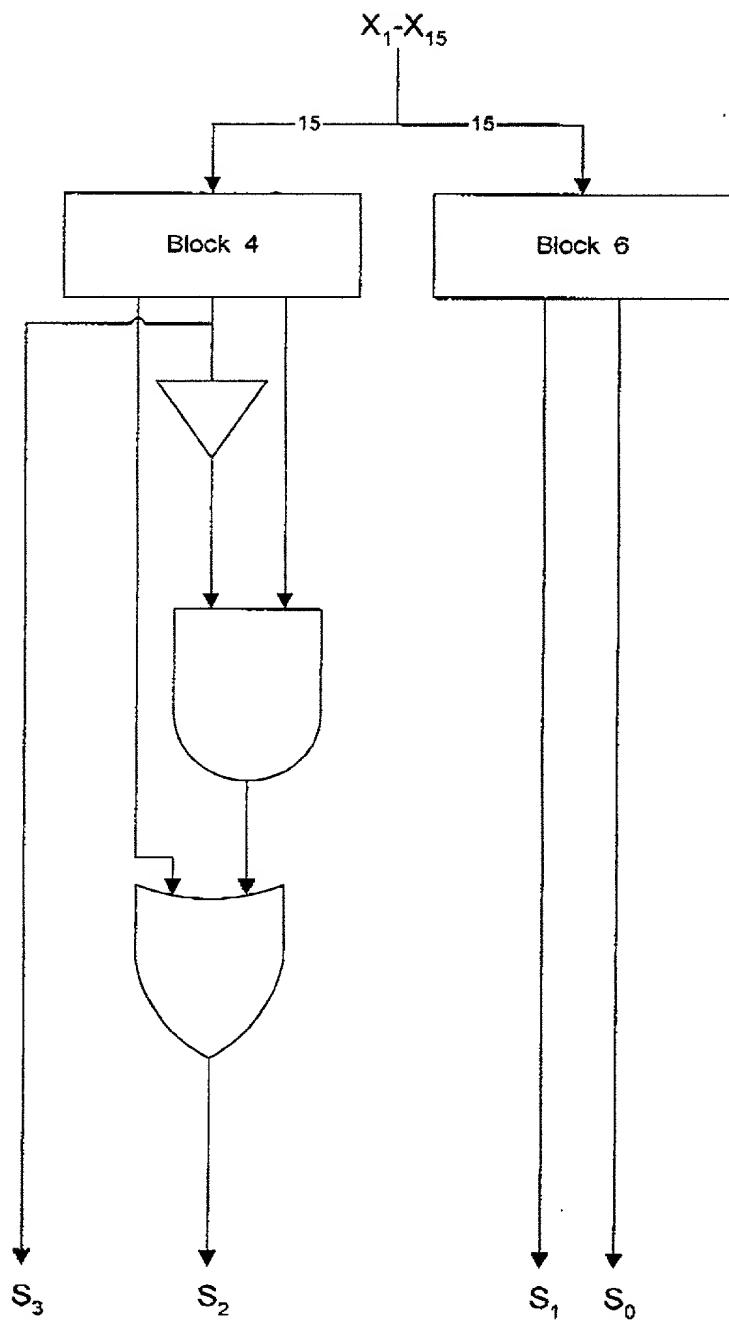


Fig 21

## PRIOR ART

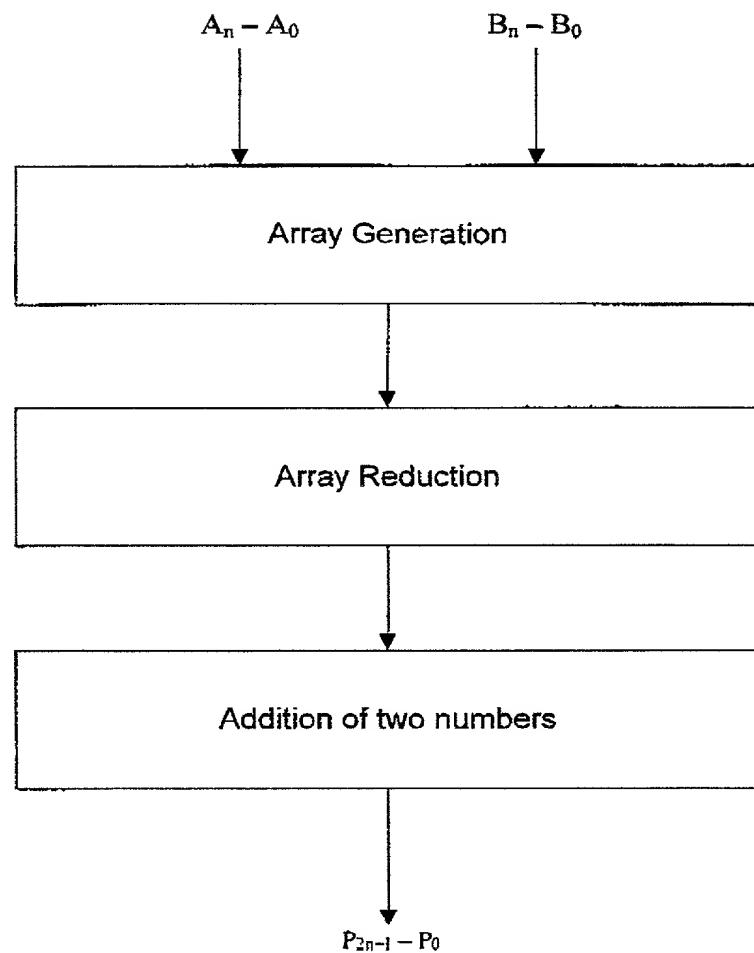


Fig 22

## PRIOR ART

$A_7B_0 \ A_6B_0 \ A_5B_0 \ A_4B_0 \ A_3B_0 \ A_2B_0 \ A_1B_0 \ A_0B_0$   
 $A_7B_1 \ A_6B_1 \ A_5B_1 \ A_4B_1 \ A_3B_1 \ A_2B_1 \ A_1B_1 \ A_0B_1$   
 $A_7B_2 \ A_6B_2 \ A_5B_2 \ A_4B_2 \ A_3B_2 \ A_2B_2 \ A_1B_2 \ A_0B_2$   
 $A_7B_3 \ A_6B_3 \ A_5B_3 \ A_4B_3 \ A_3B_3 \ A_2B_3 \ A_1B_3 \ A_0B_3$   
 $A_7B_4 \ A_6B_4 \ A_5B_4 \ A_4B_4 \ A_3B_4 \ A_2B_4 \ A_1B_4 \ A_0B_4$   
 $A_7B_5 \ A_6B_5 \ A_5B_5 \ A_4B_5 \ A_3B_5 \ A_2B_5 \ A_1B_5 \ A_0B_5$   
 $A_7B_6 \ A_6B_6 \ A_5B_6 \ A_4B_6 \ A_3B_6 \ A_2B_6 \ A_1B_6 \ A_0B_6$   
 $A_7B_7 \ A_6B_7 \ A_5B_7 \ A_4B_7 \ A_3B_7 \ A_2B_7 \ A_1B_7 \ A_0B_7$

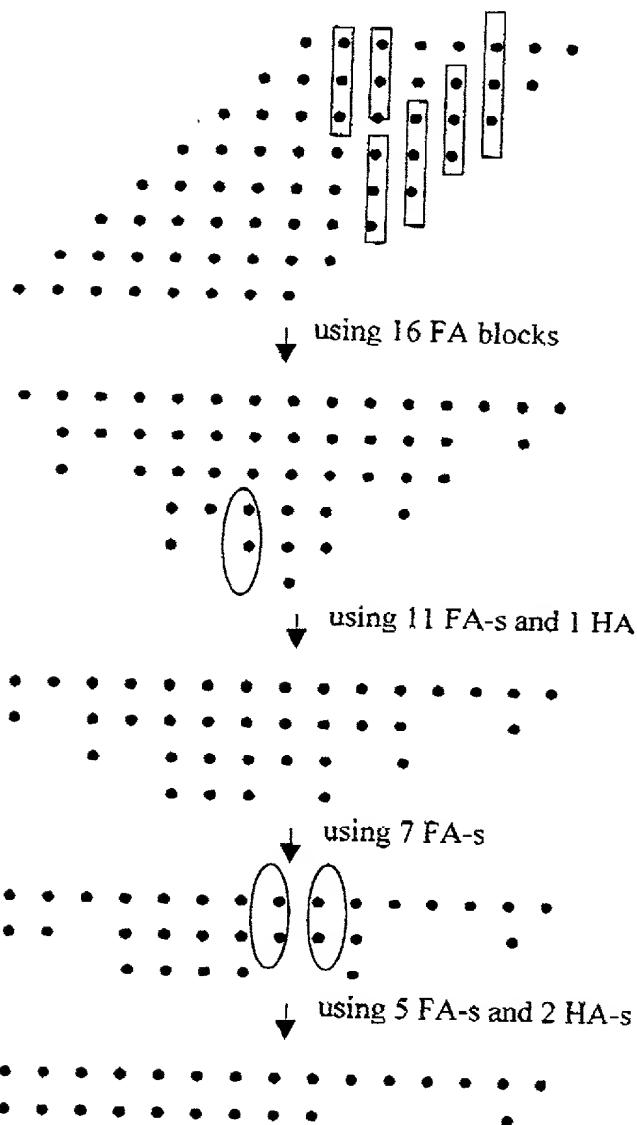


Fig 23

$A_1B_0 \quad A_0B_0$   
 $A_2B_1 \quad A_1B_1 \quad A_0B_1$   
 $A_3B_2 \quad A_2B_2 \quad A_1B_2$   
 $A_4B_3 \quad A_3B_3 \quad A_2B_3$   
 $A_5B_4 \quad A_4B_4 \quad A_3B_4$   
 $A_6B_5 \quad A_5B_5 \quad A_4B_5$   
 $A_7B_6 \quad A_6B_6 \quad A_5B_6$   
 $A_7B_7 \quad A_6B_7$

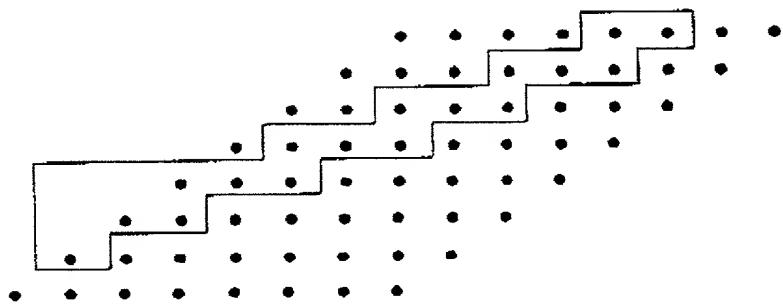
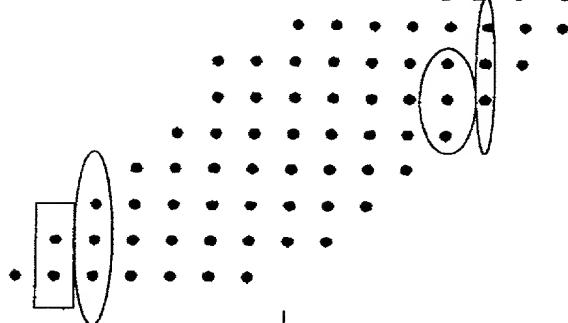


Fig 24

	A <sub>7</sub> B <sub>0</sub>	A <sub>6</sub> B <sub>0</sub>	A <sub>5</sub> B <sub>0</sub>	A <sub>4</sub> B <sub>0</sub>	A <sub>3</sub> B <sub>0</sub>	A <sub>2</sub> B <sub>0</sub>	A <sub>1</sub> B <sub>0</sub>	A <sub>0</sub> B <sub>0</sub>
Z	A <sub>7</sub> B <sub>1</sub>	A <sub>6</sub> B <sub>1</sub>	A <sub>5</sub> B <sub>1</sub>	A <sub>4</sub> B <sub>1</sub>	A <sub>3</sub> B <sub>1</sub>	A <sub>2</sub> B <sub>1</sub>	A <sub>1</sub> B <sub>1</sub>	A <sub>0</sub> B <sub>1</sub>
	A <sub>7</sub> B <sub>2</sub>	A <sub>6</sub> B <sub>2</sub>	A <sub>5</sub> B <sub>2</sub>	A <sub>4</sub> B <sub>2</sub>	A <sub>3</sub> B <sub>2</sub>	A <sub>2</sub> B <sub>2</sub>	A <sub>1</sub> B <sub>2</sub>	A <sub>0</sub> B <sub>2</sub>
	A <sub>7</sub> B <sub>3</sub>	A <sub>6</sub> B <sub>3</sub>	A <sub>5</sub> B <sub>3</sub>	A <sub>4</sub> B <sub>3</sub>	A <sub>3</sub> B <sub>3</sub>	A <sub>2</sub> B <sub>3</sub>	A <sub>1</sub> B <sub>3</sub>	A <sub>0</sub> B <sub>3</sub>
	A <sub>7</sub> B <sub>4</sub>	A <sub>6</sub> B <sub>4</sub>	A <sub>5</sub> B <sub>4</sub>	A <sub>4</sub> B <sub>4</sub>	A <sub>3</sub> B <sub>4</sub>	A <sub>2</sub> B <sub>4</sub>	A <sub>1</sub> B <sub>4</sub>	A <sub>0</sub> B <sub>4</sub>
	A <sub>7</sub> B <sub>5</sub>	A <sub>6</sub> B <sub>5</sub>	A <sub>5</sub> B <sub>5</sub>	A <sub>4</sub> B <sub>5</sub>	A <sub>3</sub> B <sub>5</sub>	A <sub>2</sub> B <sub>5</sub>	A <sub>1</sub> B <sub>5</sub>	A <sub>0</sub> B <sub>5</sub>
	A <sub>7</sub> B <sub>6</sub>	A <sub>6</sub> B <sub>6</sub>	A <sub>5</sub> B <sub>6</sub>	A <sub>4</sub> B <sub>6</sub>	A <sub>3</sub> B <sub>6</sub>	A <sub>2</sub> B <sub>6</sub>	X	A <sub>0</sub> B <sub>6</sub>
	A <sub>7</sub> B <sub>7</sub>	A <sub>6</sub> B <sub>7</sub>	A <sub>5</sub> B <sub>7</sub>	A <sub>4</sub> B <sub>7</sub>	A <sub>3</sub> B <sub>7</sub>	A <sub>2</sub> B <sub>7</sub>	Y	

15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 0 - column numbers



↓ using 1 HA, 3 FA-s, and 8 higher parallel counters

• • • • • • • • • • • • • • •

↓ using 9 FA-s and 3 HA-s

• • • • • • • • • • • • • • •

Fig 25

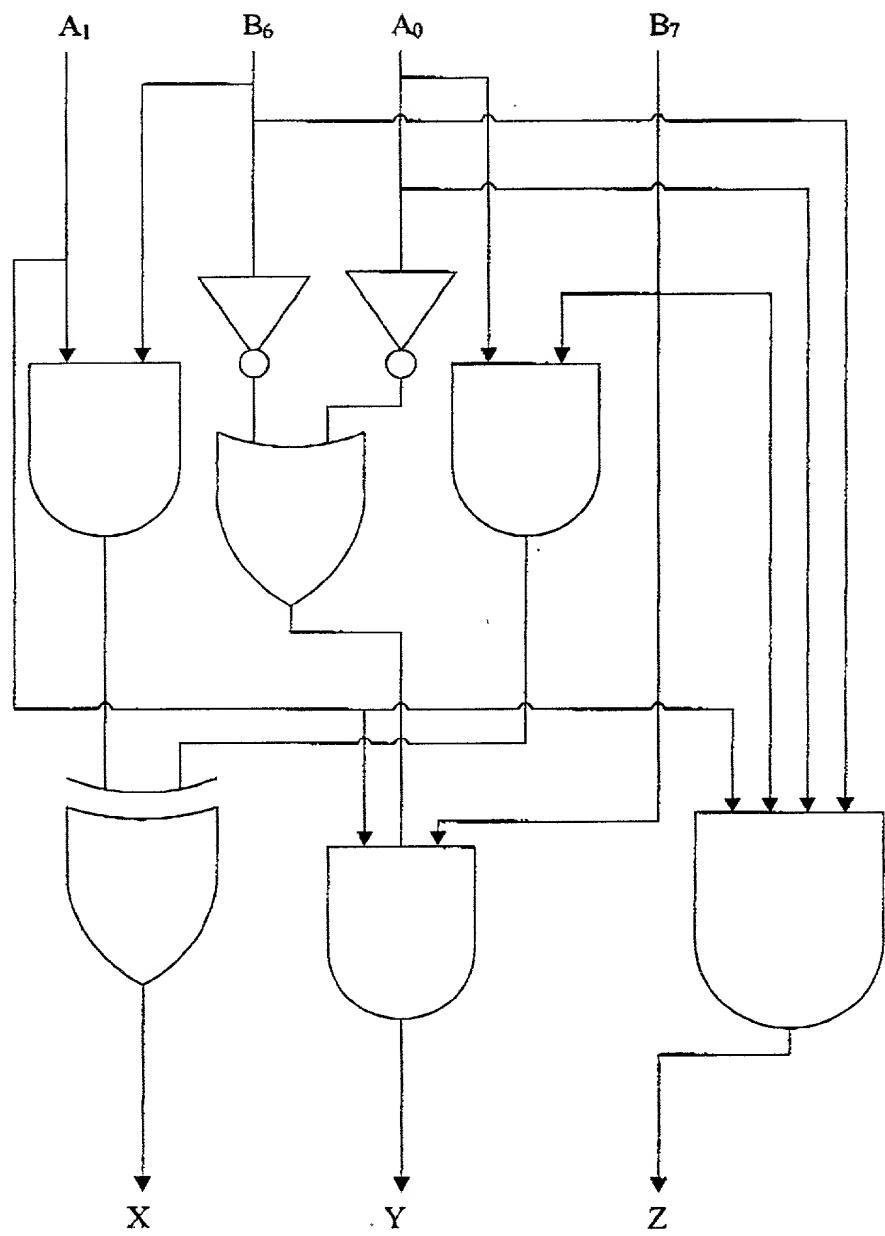


Fig 26